

WHAT IS CLAIMED IS:

1. An apparatus for dynamically determining a flow by means of an action chain in event processing performed in a distributed system, the apparatus comprising:

an action/attribute storage unit for storing information of actions to be executed upon receipt of an event object, separated from a server object; and

a flow control unit for selecting actions to be ignited from the actions stored in the action/attribute storage unit in accordance with a type of the received event object,

whereby an action chain is realized by the flow control unit.

2. A dynamic flow determination apparatus according to claim 1, wherein the action/attribute storage unit stores a definitions of actions which are executed upon reception of an event object, separated from a definition of an input pattern which serves as a condition under which the action is selected,

whereby behavior for an event is changed through modification of the definition of the input pattern without necessity of changing the definition or configuration of the action.

3. A dynamic flow determination apparatus according to claim 1, wherein when an action which has been executed upon receipt of an event returns an event object as the execution

result, the flow control unit checks the type of the newly received event object, and repeats selection and execution of actions to be ignited next to thereby determine a dynamic flow.

4. A dynamic flow determination apparatus according to claim 2, wherein not only the type of an event object, but also the value of the event object or the attribute values of the event object, is included in the definition of the input pattern stored in the action/attribute storage unit, whereby ignition of each action is controlled on the basis of the definition of the input pattern.

5. A dynamic flow determination apparatus according to claim 2, wherein the name of an action which is expected to be executed immediately before is included in the definition of the input pattern stored in the action/attribute storage unit; and

the flow control unit checks the definition of the input pattern in time of selection of actions to thereby control the order of actions to be executed.

6. A dynamic flow determination apparatus according to claim 3, wherein the flow control unit stores a list of actions already executed, when the flow control unit selects actions, and excludes an action or actions which have been executed from actions to be ignited to thereby prevent the

flow from forming an endless loop.

7. An apparatus for dynamically determining a flow by means of an action chain in event processing performed in a distributed system, the apparatus comprising:

an action/attribute storage unit for storing definition information regarding each of actions;

a message reception unit for receiving a message;

a message transmission unit for transmitting a message;

an action management unit for changing definition information regarding an action when the received message is a request for changing the definition information regarding the action;

a pattern match processing unit for comparing the contents of a parameter of a message which is received as an action execution request with the information stored in the action/attribute storage unit in order to select matched actions;

an action execution unit for managing execution of the selected action; and

a flow control unit which is started by the action execution unit upon receipt of an event object in order to select actions to be executed next in accordance with a type of the received event object and to execute the selected action.

8. A method for dynamically determining flows by action

chains in event processing performed in a distributed system comprising:

processing dynamically event without affecting other actions than a selected action in a server object by separating actions to be implemented upon receiving actions from the server object;

selecting actions to be ignited in accordance with a type of the received event object, and implementing the actions.

9. A computer readable medium storing a program to operate as an apparatus for dynamically determining a flow by means of an action chain in event processing performed in a distributed system, the program causing the computer to perform:

message reception processing for receiving a message;  
message transmission processing for transmitting a message;

action management processing for changing definition information regarding an action when the received message is a request for changing the definition information regarding the action;

pattern match processing for comparing the contents of a parameter of a message which is received as an action execution request with a pattern for selection of an action in order to select a matched action;

action execution processing for managing execution of

the selected action; and

flow control processing which is started upon receipt of an event object to select actions to be executed next in accordance with a type of the received event object and to execute the selected action.

10. An apparatus for dynamically determining a flow by means of an action chain in event processing performed in a distributed system, the apparatus comprising:

action/attribute storage means for storing information of actions to be executed upon receipt of an event object, separately from an object server; and

flow control means for selecting an action to be ignited from the actions stored in the action/attribute storage means in accordance with a type of the received event object, whereby the action chain is realized by the flow control means.

11. A dynamic flow determination apparatus according to claim 10, wherein the action/attribute storage means stores a definition of an action which is executed upon reception of an event object, separately from a definition of an input pattern which serves as a condition under which the action is selected,

whereby behavior for an event is changed through modification of the definition of the input pattern without necessity of changing the definition or configuration of the

action.

12. A dynamic flow determination apparatus according to claim 10, wherein when an action which has been executed upon receipt of an event returns an event object as an execution result, the flow control means checks the type of the newly received event object, and repeats selection and execution of actions to be ignited next to thereby determine a dynamic flow.

13. A dynamic flow determination apparatus according to claim 11, wherein not only the type of an event object, but also the value of the event object or the attribute values of the event object, is included in the definition of the input pattern stored in the action/attribute storage means, whereby ignition of each action is controlled on the basis of the definition of the input pattern.

14. A dynamic flow determination apparatus according to claim 11, wherein the name of an action which is expected to be executed immediately before is included in the definition of the input pattern stored in the action/attribute storage means; and

the flow control means checks the definition before selection of actions to thereby control the order of actions to be executed.

15. A dynamic flow determination apparatus according to claim 12, wherein the flow control means stores a list of actions already executed, when the flow control means selects actions, and excludes an action or actions which have been executed from actions to be ignited to thereby prevent the flow from forming an endless loop.

16. A dynamic flow determination apparatus which comprises:

action/attribute storage means for storing definition information regarding each of actions;

message reception means for receiving a message;

message transmission means for transmitting a message;

action management means for changing definition information regarding an action when the received message is a request for changing the definition information regarding the action;

pattern match processing means for comparing the contents of a parameter of a message which is received as an action execution request with the information stored in the action/attribute storage means in order to select matched actions;

action execution means for managing execution of the selected action; and

flow control means which is started by the action execution means upon receipt of an event object in order to select actions to be executed next in accordance with a type

of the received event object and to execute the selected action.

17. A dynamic flow determination apparatus which processes events cooperatively with another apparatus in a distributed system, wherein each apparatus keeps actions and attributes defined separately from another apparatus;

the dynamic flow of actions is determined through selection of actions corresponding to an input event.

18. A dynamic flow determination apparatus according to claim 17, wherein different input patterns are defined for an event, and each of the different input pattern corresponds to each of the different action of the event, thus the dynamic flow of actions for an event is determined.

19. A dynamic flow determination apparatus according to claim 17 wherein, when an executed result of an action is returned, further another action is determined through the input pattern of an event followed to the result of the action.

20. A dynamic flow determination apparatus according to claim 17, wherein attributes value of the action is defined for an event, so that the chain in dynamic flow of the action is controlled through the definition.

21. A dynamic flow determination apparatus according to claim 17 wherein name of an action which is expected to be executed before the action is listed, so that the dynamic flow of action is determined through referencing the action name in time of selection of the action.